

REMARKS

The Official Action mailed August 22, 2006, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on September 22, 2003; October 16, 2003; March 11, 2004; July 21, 2005; January 6, 2006; February 24, 2006; and June 19, 2006.

A further Information Disclosure Statement is submitted herewith and consideration of this Information Disclosure Statement is respectfully requested.

Claims 1, 3, 5, 7, 9, 11, 13-37, 39, 41, 42, 44, 45 and 47-54 are pending in the present application, of which claims 1, 3, 5, 7, 9, 11, 13, 16, 19, 22, 25, 28, 31, 34, 37, 39, 41 and 44 are independent. (Although the Office Action Summary includes claim 12 in the list of pending claims; however, claim 12 was canceled in the *Amendment* filed June 19, 2006.) The independent claims have been amended to better recite the features of the present invention. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action continues to reject claims 1, 3, 5, 7, 9, 11, 13-37, 39, 41, 42, 44, 45 and 47-54 as obvious based on the combination of U.S. Patent No. 6,393,042 to Tanaka, European Patent Application No. EP 1 063 049 to Okamoto and U.S. Patent No. 6,437,313 to Yamazaki. The Applicant respectfully submits that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present application, as amended.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the

prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. Independent claims 1, 3, 5, 7, 9, 11, 13, 16, 19 and 22 have been amended to recite that a width direction is a direction of a short side of a line-shape on an irradiated surface. Independent claims 25, 28, 31 and 34 have been amended to recite that a width direction is a direction of a short side of a linear beam spot and a length direction is a direction of a long side of the linear beam spot. Independent claims 37, 39, 41 and 44 have been amended to recite that a width direction is a direction of a short side of a laser light. That is, all independent claims have been amended to clarify "the width direction" as "a short side" of a line-shape on an irradiated surface, a linear beam spot or a laser light. For the reasons provided below, Tanaka '042, Okamoto and Yamazaki, either alone or in combination, do not teach or suggest the above-referenced features of the present invention.

The Official Action concedes that Tanaka does not teach "reflective surfaces facing each other and lens" (page 2, Paper No. 20060815). The Official Action relies on Okamoto to allegedly teach that a beam is treated by passing through two facing reflective surfaces, and the Official Action relies on Yamazaki to allegedly teach that a beam travels through a cylindrical lens while being treated prior to scanning a material.

However, the alleged combination of Tanaka '042, Okamoto and Yamazaki does not teach or suggest a light guide (pipe) for homogenizing an energy distribution of a line-shape on an irradiated surface, a linear beam spot or a laser light along a width (a short side) direction.

The present invention is directed to a cylindrical lens for converging a line-shape on an irradiated surface, a linear beam spot or a laser light in a width direction and a light guide (pipe) for homogenizing an energy distribution of the line-shape on the irradiated surface, the linear beam spot or the laser light along the width direction, which is a direction of a short side of a line-shape (or a linear beam spot) on an irradiated surface.

On the other hand, Tanaka appears to disclose homogenizing an intensity of a linear beam using a cylindrical lens group and the like. Tanaka does not teach or suggest using a light guide comprising two reflective surfaces facing each other for homogenizing an energy distribution of a laser light along a width (a short side) direction.

Okamoto appears to disclose reflective surfaces facing each other (30) for homogenizing an energy distribution of a laser light along a longitudinal (long side) direction (see abstract, paragraph [0033] and Figure 1D or the like). However, Okamoto does not teach or suggest that the light guide is used for homogenizing an energy distribution of a laser light along a width (a short side) direction (see paragraphs [0031] or [0041]).


In the "Response to Arguments" section, the Office Action asserts that Yamazaki "teaches using a cylindrical lens to control beam width" (page 3, Paper No. 20060815). Although Yamazaki appears to disclose a cylindrical lens to control beam width, Yamazaki does not teach or suggest using a light guide comprising two reflective surfaces facing to each other for homogenizing an energy distribution of a laser light along a width (a short side) direction.

Therefore, Tanaka '042, Okamoto and Yamazaki, either alone or in combination, do not teach or suggest a light guide (pipe) for homogenizing an energy distribution of a line-shape on an irradiated surface, a linear beam spot or a laser light along a width (a short side) direction. Even if one were sufficiently motivated to combine Tanaka '042, Okamoto and Yamazaki, the present invention cannot be obtained.

Since Tanaka '042, Okamoto and Yamazaki do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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